

The Role of Monitoring and Prediction Within Drought Risk Management

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Photo: Cimarron County, Oklahoma

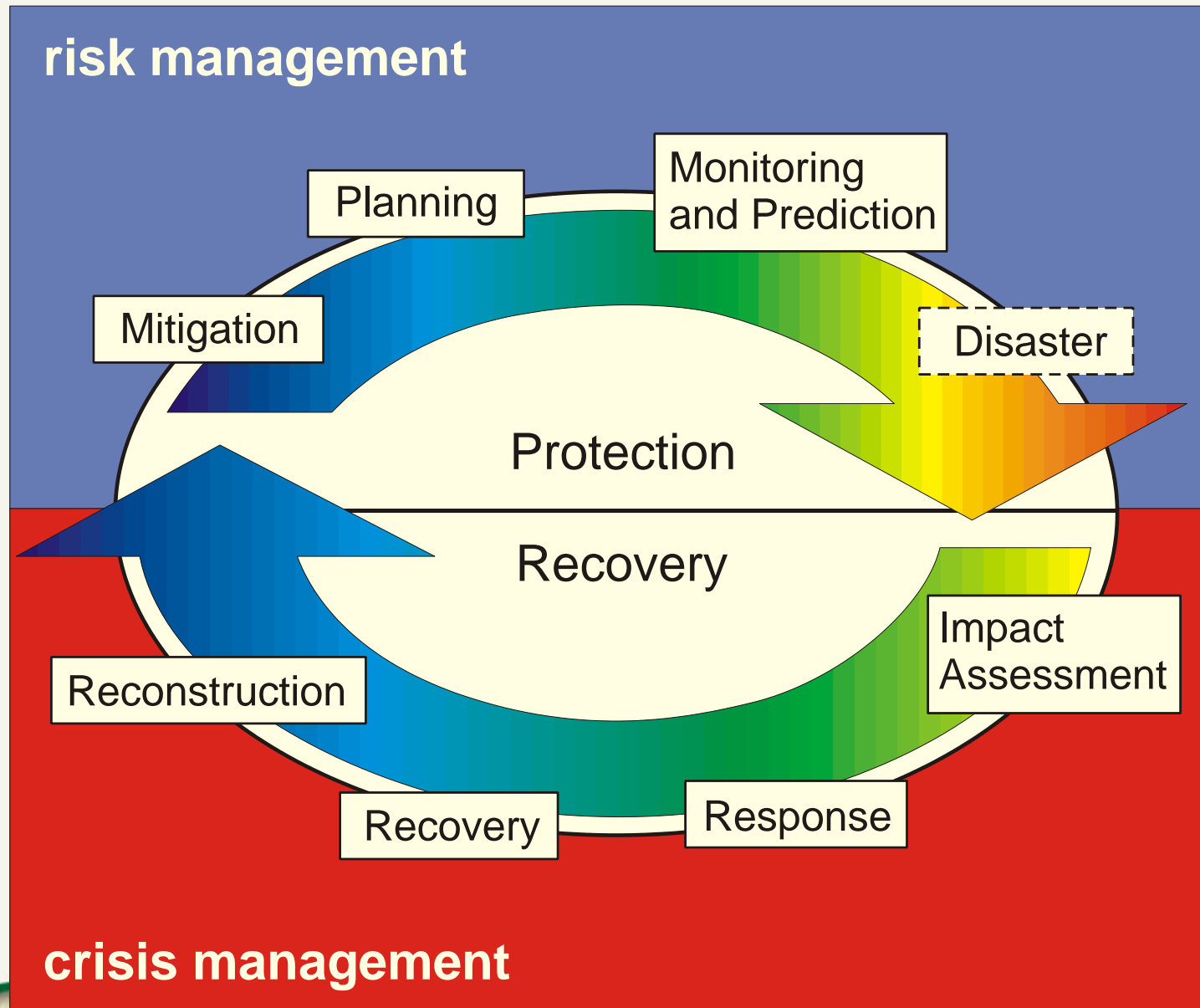
Gary McManus, Oklahoma Climatological Survey, late June, 2008

Scales of Food Security Issues

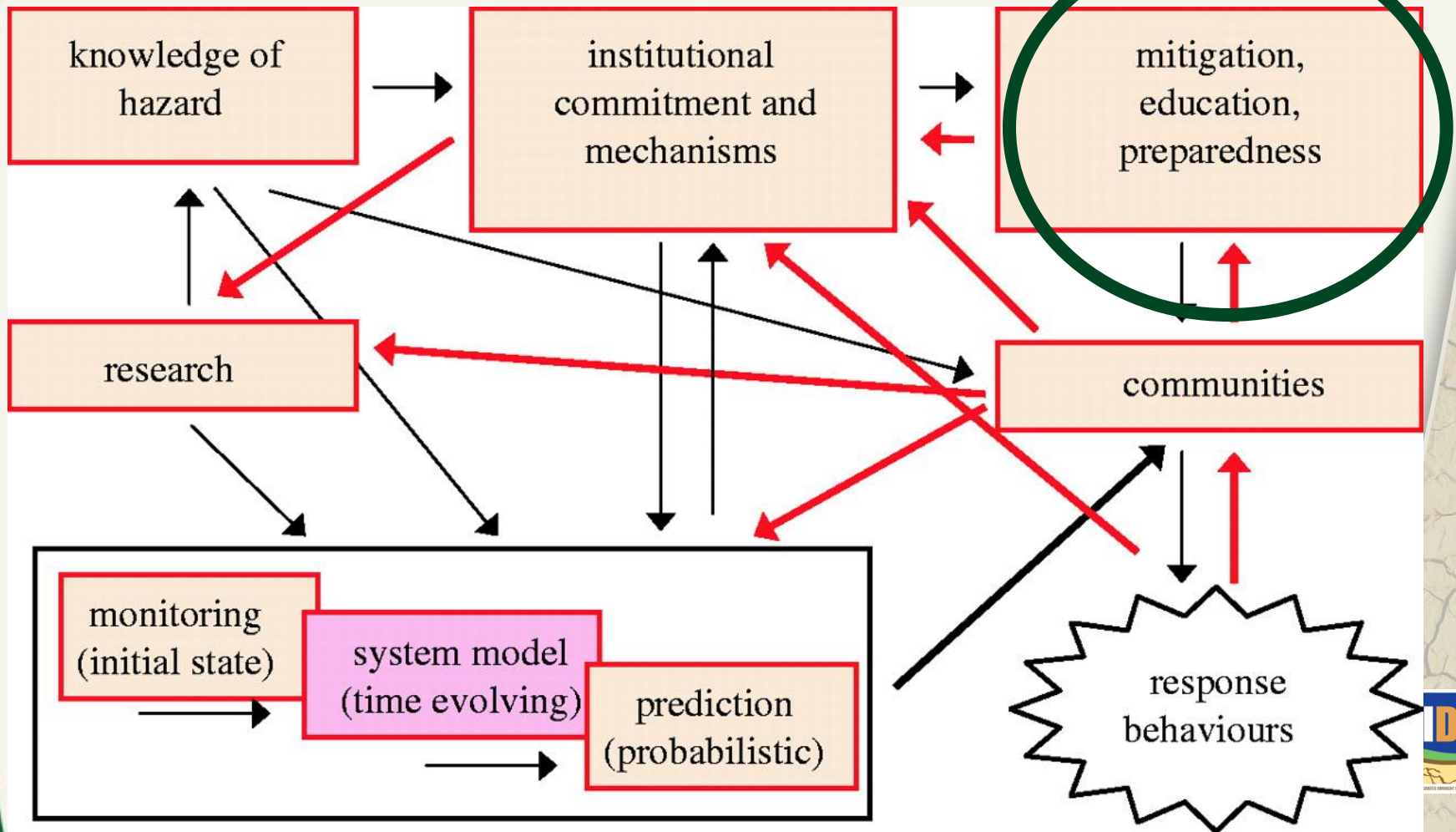
- Global
- Continental
- National
- State/Province
- Basin
- Watershed
- Community
- Farm
- Household



The Cycle of Disaster Management



Integrated Systems Model of Early Warning System



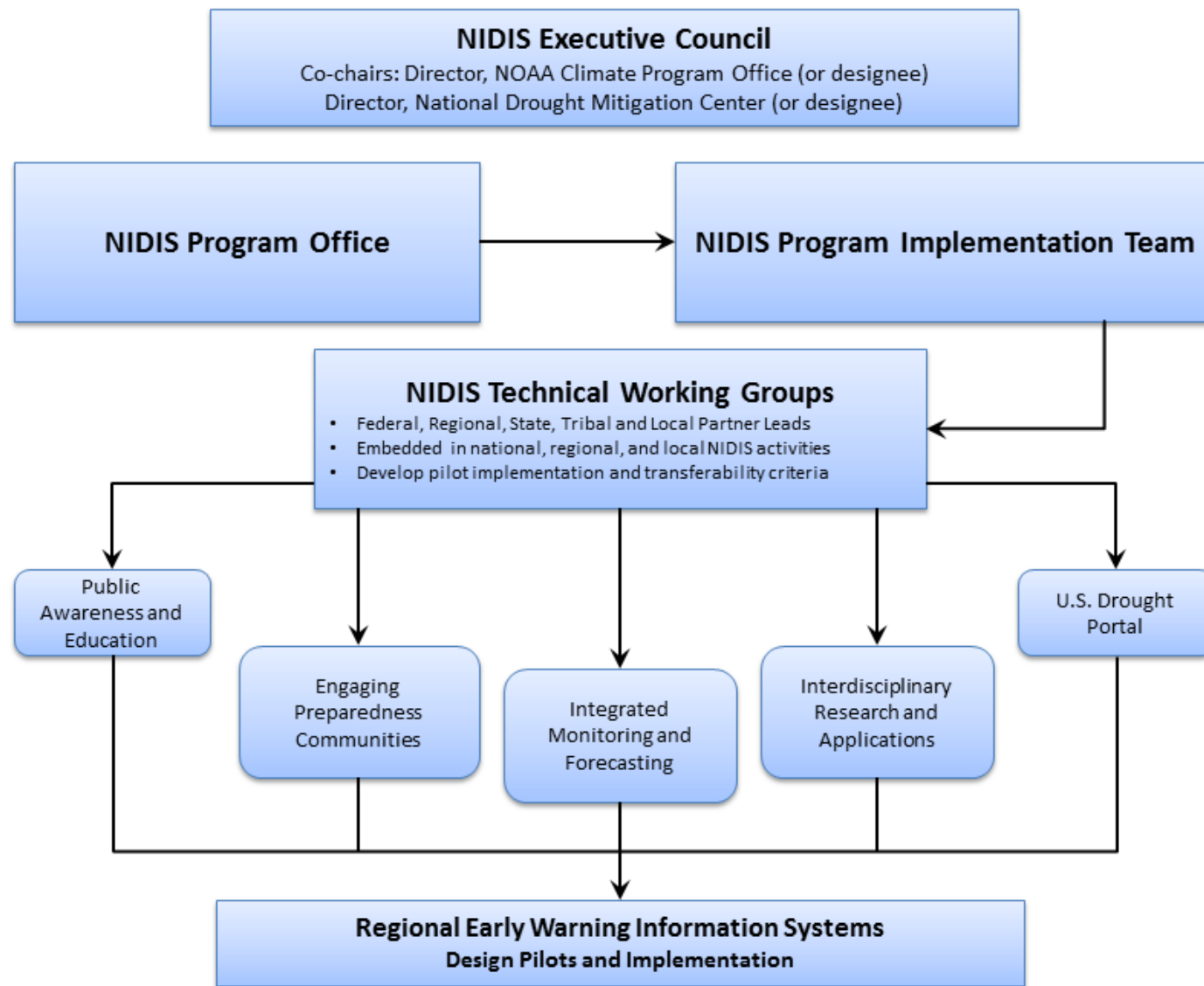
Reid Basher, Phil. Trans. R. Soc. A 2006;364:2167-2182



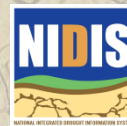
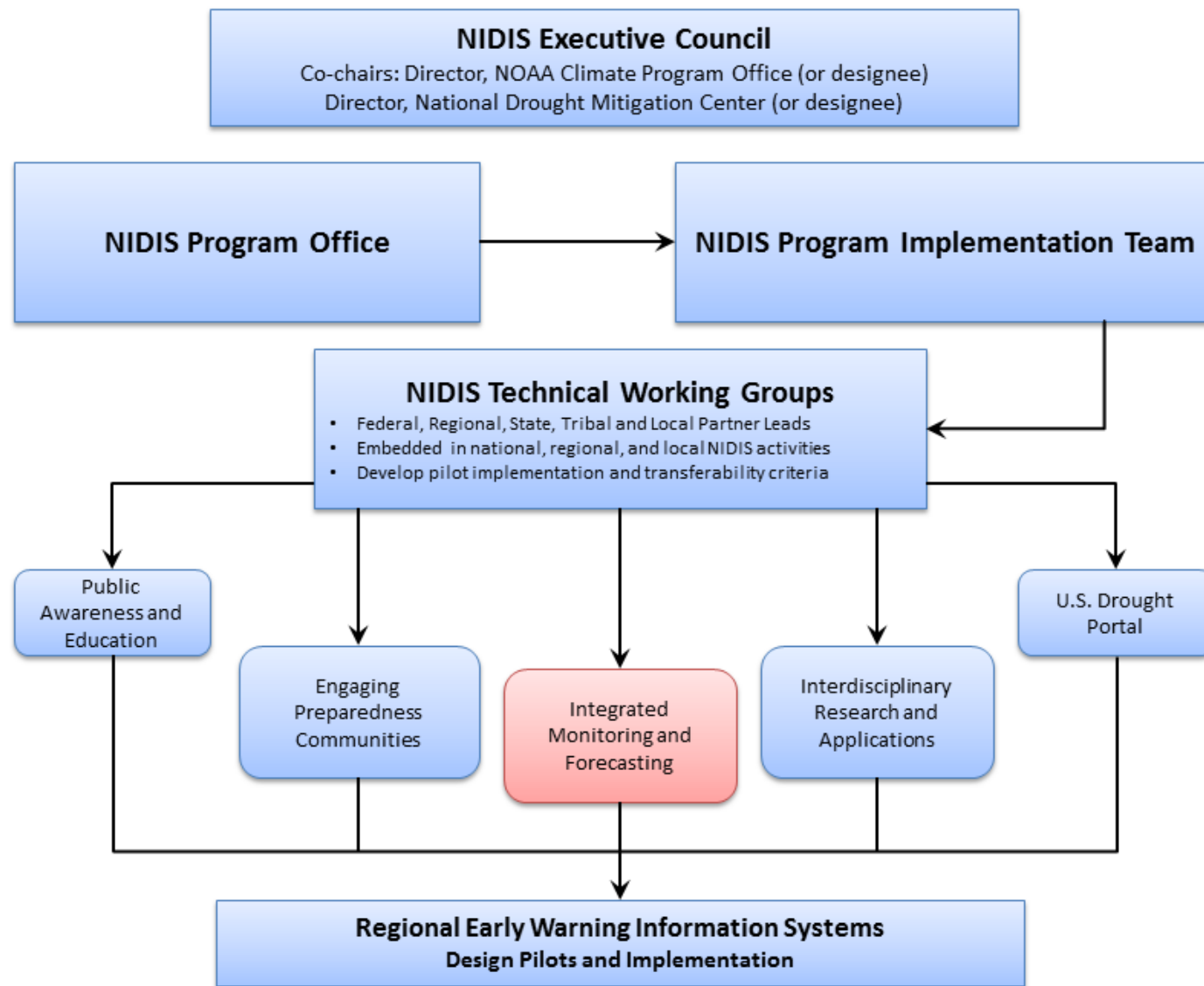
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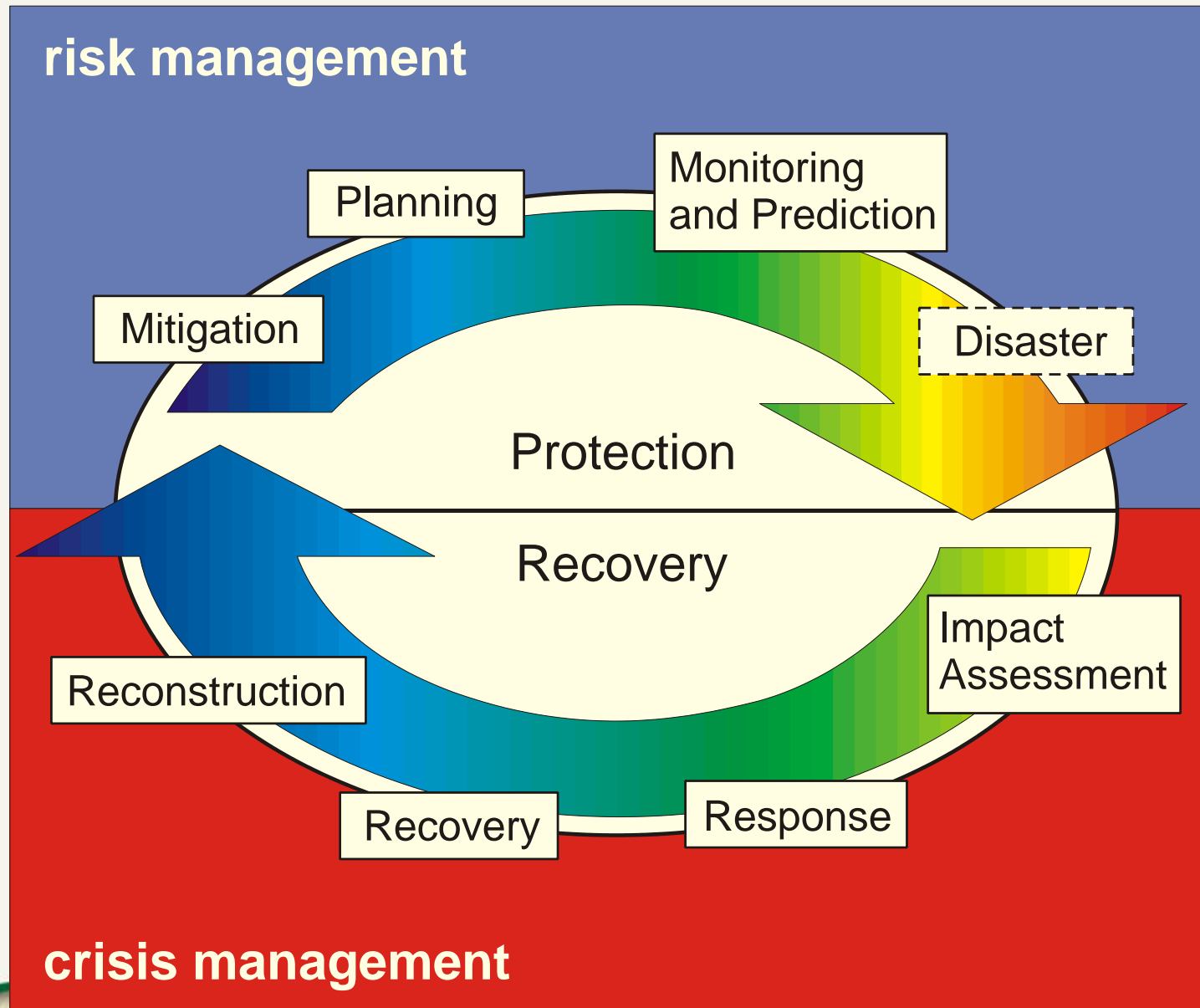
Governance Structure for NIDIS Implementation



Governance Structure for NIDIS Implementation



The Cycle of Disaster Management



Drought Plan Components

- ▣ Monitoring and early warning
 - Assess, communicate, and trigger action
 - Cannot manage what is not monitored
- ▣ Vulnerability assessment
 - Who and what is at risk and why?
 - Impacts
- ▣ Mitigation and response actions
 - Actions/programs that reduce risk and impacts and enhance recovery

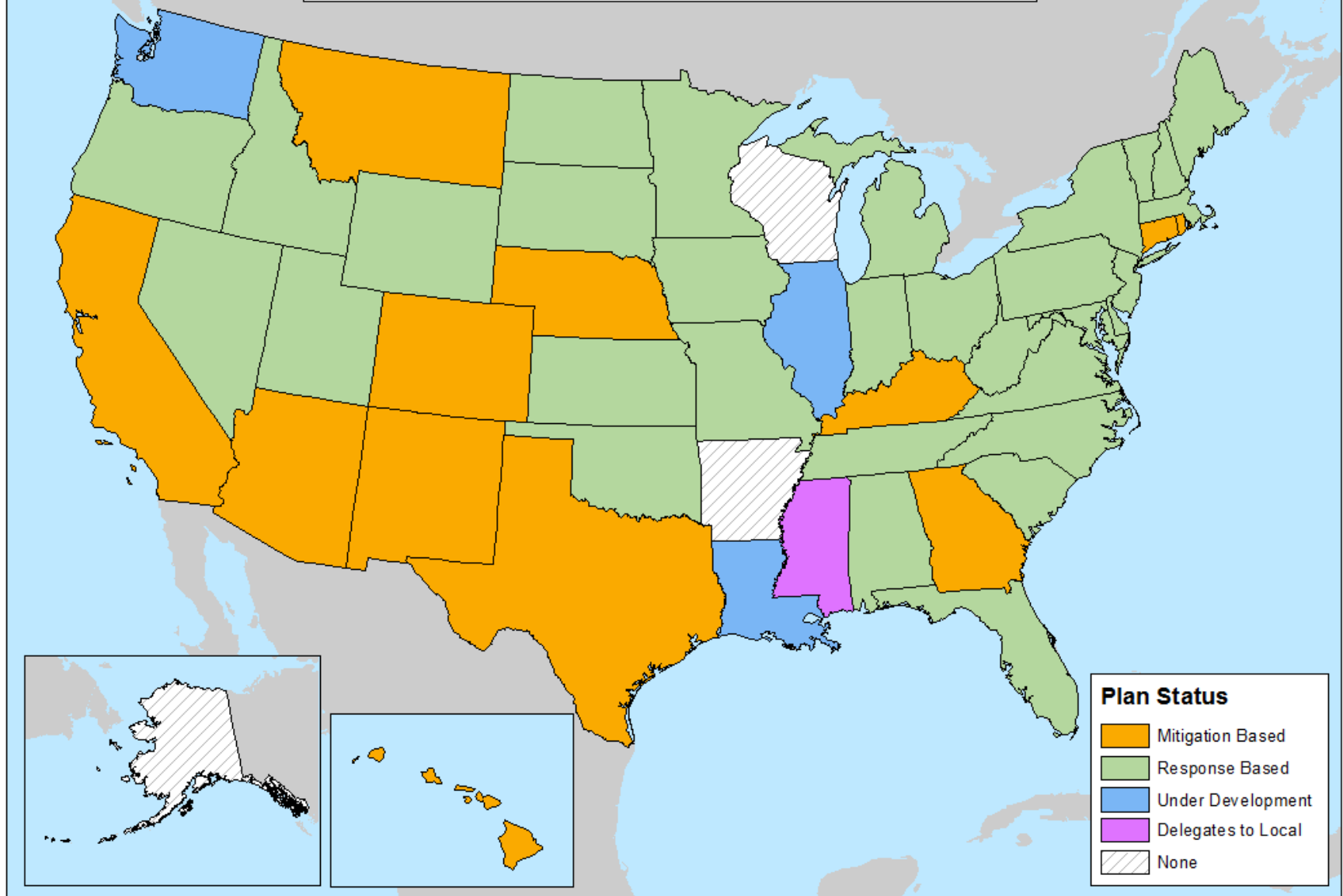


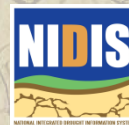
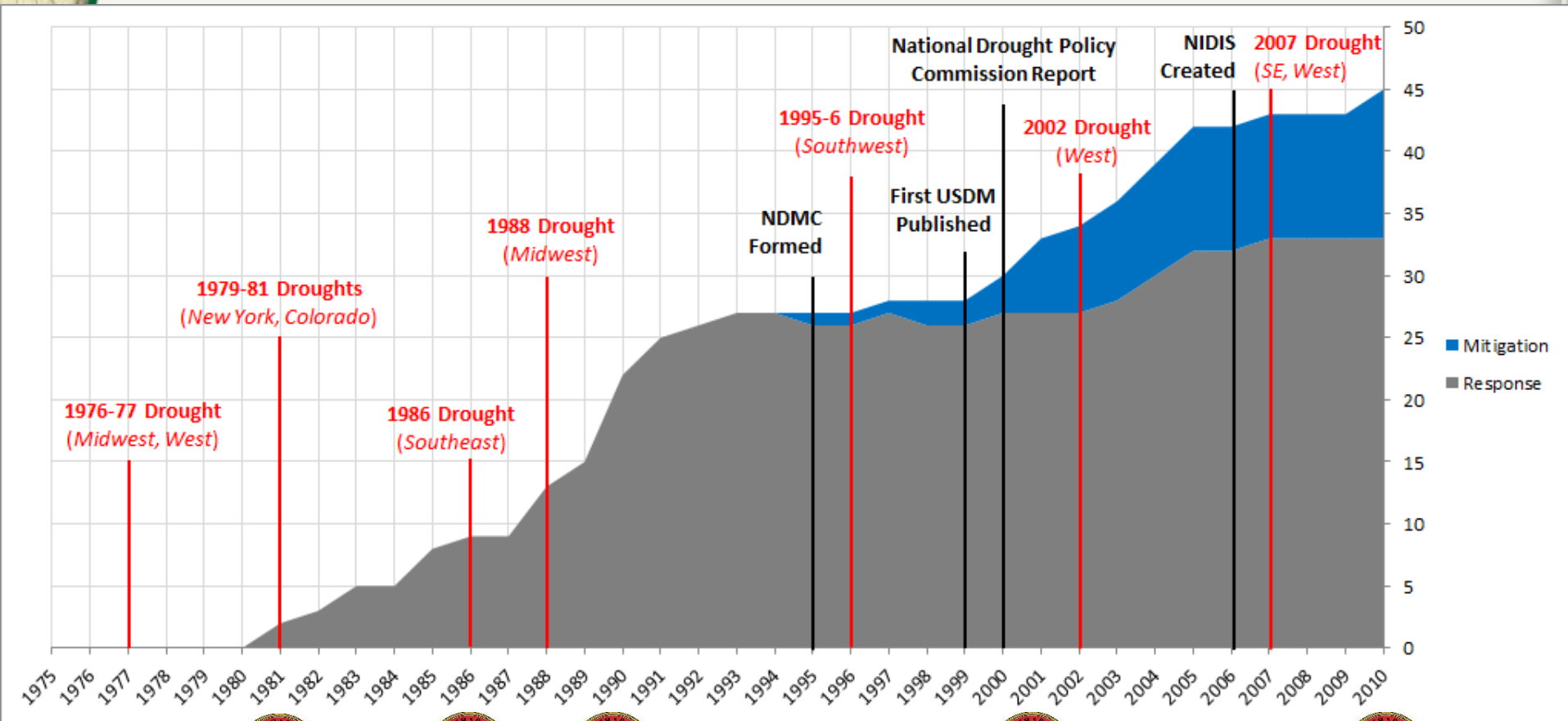
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2012





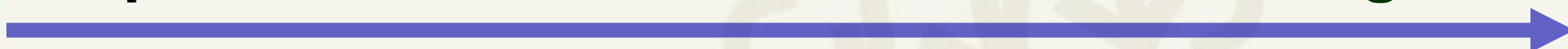
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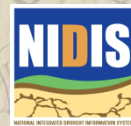
Drought Planning Continuum

Response

Mitigation



- ▢ Increasing need for more reliable seasonal forecasts/outlooks
- ▢ Increasing need for timely, reliable climate/water supply assessments
- ▢ Increasing need for higher resolution analysis for policy/decision support



Lessons/Conclusions

▣ ***Monitoring and Early Warning Information:***

can often be a starting point for the engagement of stakeholders for risk management.

- It is often what the stakeholders know and can relate to
- Allows trust to develop (between different stakeholders, with the data, making decisions, etc...)



Lessons/Conclusions

► ***Early Warning and Risk Management Relationship:*** A cycle forms.

- As monitoring and early warning systems improve, the need for better drought risk management strategies (planning and mitigation) increases
- As planning and mitigation strategies are implemented, the need for improved drought monitoring and early warning increases
- Information drives this cycle



Lessons/Conclusions

- ▶ ***Droughts provide windows of opportunity:*** often the best opportunity to engage a community comes only after a drought event.
 - Excellent experiments to improve the early warning and risk management relationship
 - 2011 and 2012

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Lessons/Conclusions

- ▣ ***Partnerships and networks are fundamental:*** assists with dealing with the spatial complexity

- NIDIS

- ▣ EPC

- ▣ Regional Drought Early Warning Systems (NIDIS)

- ▣ Regional Drought Coordinator: Veva Deheza

- RISAs

- RCCs

- Universities are critical for building the capacity related to research and outreach

- ▣ Extension (Climate Extension Specialists)



A landscape photograph showing a dry, hilly area with sparse, golden-brown vegetation. A single, bare tree stands in the middle ground. The sky is a clear, pale blue. The overall scene suggests a drought-affected environment.

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